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LOCKHEED MARTIN

June 15, 2004

Mr. Gerard J. Thibeault
Executive Officer
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, California 92501-3339

Subject: Quarterly Report, Regional Water Quality Control Board Cleanup and Abatement Orders No. 97-58 as amended by Order No. 01-56, and Order No. 94-37

Dear Mr. Thibeault:

This report is submitted as required under CAO No. 94-37, Item 10, and CAO No. 97-58, as amended by Order No. 01-56 (in accordance with the approved August 15, 1997, Workplan and Schedule). It covers activity for April and May 2004.

Sampling

Sampling for TCE and perchlorate is performed and submitted to the RWQCB in monthly reports entitled "Production Well Sampling Reports, Water Supply Contingency Plan, Crafton Redlands Plume Project."

Sampling of wells for TCE and perchlorate is performed according to decision matrices approved by the RWQCB on April 1, 2003.

Modeling

Lockheed Martin has incorporated the most recent water quality data into the Bunker Hill Basin ground water flow model. Lockheed Martin has undertaken modeling revisions to improve its forecasting function. This model is used in predicting future plume migration patterns.

TCE Treatment Update

Progress on TCE Plume Containment "Alternative 5" implementation is submitted monthly to the RWQCB under separate cover. TCE treatment is installed at six City of Riverside Gage wells.

Perchlorate Treatment Update

In March, the Office of Environmental Health Hazard Assessment issued a final perchlorate public health goal (PHG) of 6 ppb. Also in March, the Department of Health Services moved the perchlorate action level (AL) from 4 ppb to 6 ppb.

City of Riverside

Lockheed Martin has selected temporary ion exchange treatment at City of Riverside wells to facilitate perchlorate plume containment and mass removal. The treated water is used by the City of Riverside, under Department of Health Services permits, for drinking water.

The installation of temporary ion exchange treatment for Gage well 51-1 was completed in October 2002 and is available for use by the City of Riverside. Installation of temporary ion exchange treatment for Gage wells 29-2, 29-3 and 92-1 was completed in November 2002 and is available for use by the City of Riverside. Lockheed Martin, working with the City of Riverside, has completed the installation of additional, temporary ion exchange treatment capacity for Gage wells 46-1, 66-1, 26-1 and 27-1. The treatment system at Gage well 46-1 was completed in April 2004 while the treatment systems at 66-1, 26-1 and 27-1 were completed in May 2004. Lockheed Martin continues to work with the City of Riverside to determine how much of the available temporary treatment facilities will be necessary to treat the drinking water in consideration of the new perchlorate action level of 6 ppb.

Lockheed Martin is also evaluating emerging technologies for perchlorate treatment and has an agreement in principal with the City of Riverside to perform a demonstration test of a fluidized bed bioreactor treatment system at the City's Raub 2 well (a perchlorate impacted well within the Bunker Hill Basin). Treated water will not be used for drinking water during the test. Planning for the installation of the fluidized bed bioreactor treatment system is underway and testing is scheduled for the fourth quarter of 2004.

Loma Linda University

Lockheed Martin and Loma Linda University executed an agreement for the installation of temporary ion exchange treatment at their Anderson number 2 and 3 wells in December 2003. Construction of the treatment system is complete. Lockheed Martin is working with Loma Linda University to determine how much of the newly installed temporary treatment will be necessary to treat the drinking water in consideration of the new perchlorate action level of 6 ppb. A treat and blend demonstration plan is under development.

Water Supply Contingency Plans (WSCP) Update

City of Loma Linda

Lockheed Martin continued to work with the City of Loma Linda to finalize equipping the city's Richardson-4 well, in order to comply with agreements supporting the water supply contingency plan.

City of Redlands

The City of Redlands has available for use, as necessary, two drinking water wells drilled north of the Santa Ana River adjacent to Orange Street. The availability of these wells is a result of a settlement reached between Lockheed Martin and the City of Redlands.

Lockheed Martin is evaluating "tailored carbon" as an emerging perchlorate treatment technology in cooperation with the City of Redlands, US Filter/Westates and Penn State University. Tailored carbon testing began at the City of Redlands Texas Street facility during the second quarter of 2004.

Lockheed Martin and the City of Redlands are planning to install temporary ion exchange treatment at the City's Rees well. Additionally, Lockheed Martin and the City are pursuing approaches to blend City wells No. 38 with No. 39 and the Church Street well with the Orange Street well.

Riverside Highland Water Company

Lockheed Martin met with Riverside Highland Water Company to learn about their plans to begin utilizing a well in the Bunker Hill Basin for drinking water in 2006 or 2007. Lockheed Martin agreed to prepare a Water Supply Contingency Plan to address the intended future use of the well.

Problems Encountered

No problems were encountered during the second quarter of 2004.

The next quarterly update will be submitted on or about September 15, 2004. If you have any questions, please contact Bob Simpson at (818) 847-0584 or Bill Bath at (303) 977-3997.

Sincerely,

Bill Bath

Bill Bath
Technical Project Manager

c: Dana Beaman, LLU
DOHS, San Bernardino
Wesley Danskin, US Geological Survey
Greg Snyder, COLL
Tom Crowley, San Bernardino Valley Water Conservation District
Doug Headrick, City of Redlands
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LOCKHEED MARTIN

April 14, 2004

Mr. Gerard J. Thibeault
Executive Officer
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, California 92501-3339

Subject: Quarterly Report, Regional Water Quality Control Board Cleanup and Abatement Orders No. 97-58 as amended by Order No. 01-56, and Order No. 94-37

Dear Mr. Thibeault:

This report is submitted as required under CAO No. 94-37, Item 10, and CAO No. 97-58, as amended by Order No. 01-56 (in accordance with the approved August 15, 1997, Workplan and Schedule). It covers activity for January, February and March 2004.

Sampling

Sampling for TCE and perchlorate is performed and submitted to the RWQCB in monthly reports entitled "Production Well Sampling Reports, Water Supply Contingency Plan, Crafton Redlands Plume Project."

Sampling of wells for TCE and perchlorate is performed according to decision matrices approved by the RWQCB on April 1, 2003.

Lockheed Martin sampled newly installed wells, LMW-4 and LMW-5, during the first quarter of 2004.

Modeling

Lockheed Martin has incorporated the most recent water quality data into the Bunker Hill Basin ground water flow model. This model is used in predicting future plume migration patterns.

TCE Treatment Update

Progress on TCE Plume Containment "Alternative 5" implementation is submitted monthly to the RWQCB under separate cover. TCE treatment is installed at six City of Riverside Gage wells.

Perchlorate Treatment Update

In March, the Office of Environmental Health Hazard Assessment issued a final perchlorate public health goal (PHG) of 6 ppb. Also in March, the Department of Health Services moved the perchlorate action level (AL) from 4 ppb to 6 ppb.

City of Riverside

Lockheed Martin has selected temporary ion exchange treatment at selected City of Riverside wells to facilitate perchlorate plume containment and mass removal. The treated water is used by the City of Riverside, under Department of Health Services permits, for drinking water.

The installation of temporary ion exchange treatment for Gage well 51-1 was completed in October 2002 and is available for use by the City of Riverside. Installation of temporary ion exchange treatment for Gage wells 29-2, 29-3 and 92-1 was completed in November 2002 and is available for use by the City of Riverside. Lockheed Martin, working with the City of Riverside, has substantially completed the installation of additional, temporary ion exchange treatment capacity for Gage wells 46-1, 66-1, 26-1 and 27-1. Lockheed Martin is also working with the City of Riverside to determine how much of the newly installed temporary treatment will be necessary to treat the drinking water in consideration of the new perchlorate action level of 6 ppb.

Lockheed Martin is also evaluating emerging technologies for perchlorate treatment and has an agreement in principal with the City of Riverside to perform a demonstration test of a fluidized bed bioreactor treatment system on one of the city's wells (a perchlorate impacted well within the Bunker Hill Basin). Treated water will not be used for drinking water during the test. Planning for the installation of the fluidized bed bioreactor treatment system is underway and testing is scheduled for the third and fourth quarters of 2004.

Loma Linda University

Lockheed Martin and Loma Linda University executed an agreement for the installation of temporary ion exchange treatment at their Anderson number 2 and 3 wells in December 2003. Construction of the treatment system is substantially complete and remains on schedule to be complete in April of 2004.

Lockheed Martin is working with Loma Linda University to determine how much of the newly installed temporary treatment will be necessary to treat the drinking water in consideration of the new perchlorate action level of 6 ppb.

Water Supply Contingency Plans (WSCP) Update

City of Loma Linda

Lockheed Martin continued to work with the City of Loma Linda to finalize equipping the city's Richardson-4 well, in order to comply with agreements supporting the water supply contingency plan.

City of Redlands

The City of Redlands has available for use, as necessary, two drinking water wells drilled north of the Santa Ana River adjacent to Orange Street. The availability of these wells is a result of a settlement reached between Lockheed Martin and the City of Redlands.

Lockheed Martin is evaluating "tailored carbon" as an emerging perchlorate treatment technology in cooperation with the City of Redlands, US Filter/Westates and Penn State. Tailored carbon will be tested at the City of Redlands Texas Street facility beginning in mid-2004.

Lockheed Martin continued working with the City of Redlands to develop plans to mitigate impacts of perchlorate to other wells in their system.

Riverside Highland Water Company

Lockheed Martin met with Riverside Highland Water Company to learn about their plans to begin utilizing a well in the Bunker Hill Basin for drinking water in 2006 or 2007. Lockheed Martin agreed to prepare a Water Supply Contingency Plan to address the intended future use of the well.

Problems Encountered

No problems were encountered during the first quarter.

The next quarterly update will be submitted on or about July 15, 2004. If you have any questions, please contact Bob Simpson at (818) 847-0584 or Tom Blackman at (818)847-9901.

Sincerely,

Thomas D. Blackman, R.G., C.H.G.
Technical Project Manager

C: Dana Beaman, LLU
DOHS, San Bernardino
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Doug Headrick, City of Redlands
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✓ Kevin Mayer, US EPA
Steve Mains, Western Municipal Water District
Don Hough, Riverside Highland Water Company
Phil Mook, USAF, AFBCA/DD
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LOCKHEED MARTIN

January 14, 2004

Mr. Gerard J. Thibeault
Executive Officer
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, California 92501-3339

Subject: Quarterly Report, Regional Water Quality Control Board Cleanup and Abatement Orders No. 97-58 as amended by Order No. 01-56, and Order No. 94-37

Dear Mr. Thibeault:

This report is submitted as required under CAO No. 94-37, Item 10, and CAO No. 97-58, as amended by Order No. 01-56 (in accordance with the approved August 15, 1997, Workplan and Schedule). It covers activity for October, November and December 2003.

Sampling

Sampling for TCE and perchlorate is performed and submitted to the RWQCB in monthly reports entitled "Production Well Sampling Reports, Water Supply Contingency Plan, Crafton Redlands Plume Project."

Sampling of wells for TCE and perchlorate is performed according to decision matrices approved by the RWQCB on April 1, 2003.

Lockheed Martin completed the installation of two multi-port monitoring wells, LMW-4 and LMW-5, according to the "Task 3 Work Plan Addendum" approved by Mr. Kamron Saremi on October 30, 2003. Lockheed Martin will sample these newly installed wells during the first quarter of 2004.

Modeling

Lockheed Martin has incorporated the most recent water quality data into the Bunker Hill Basin ground water flow model. This model is used in predicting future plume migration patterns.

TCE Treatment Update

Progress on TCE Plume Containment "Alternative 5" implementation is submitted monthly to the RWQCB under separate cover. TCE treatment is installed at six City of Riverside Gage wells.

Perchlorate Treatment Update

Lockheed Martin has selected temporary ion exchange treatment at selected City of Riverside wells to facilitate perchlorate plume containment and mass removal. The treated water is used by the City of Riverside, under Department of Health Services permits, for drinking water.

The installation of temporary ion exchange treatment for Gage well 51-1 was completed in October 2002 and is available for use by the City of Riverside. Installation of temporary ion exchange treatment for Gage wells 29-2, 29-3 and 92-1 was completed in November 2002 and is available for use by the City of Riverside. Lockheed Martin is working with the City of Riverside to install additional, temporary ion exchange treatment for Gage wells 46-1, 66-1, 26-1 and 27-1 by June of 2004.

Lockheed Martin is also evaluating emerging technologies for perchlorate treatment and has an agreement in principal with the City of Riverside to perform a demonstration test of a fluidized bed bioreactor treatment system on one of the city's wells (a perchlorate impacted well within the Bunker Hill Basin). Treated water will not be used for drinking water during the test. Planning for the installation of the fluidized bed bioreactor treatment system is underway and testing is scheduled for the third and fourth quarters of 2004.

Water Supply Contingency Plans (WSCP) Update

City of Loma Linda

Lockheed Martin continued to work with the City of Loma Linda to finalize configuration plans for the city's Richardson-4 well, in order to comply with agreements supporting the water supply contingency plan.

City of Redlands

The City of Redlands continued the use of two drinking water wells drilled north of the Santa Anna River off of Orange Street. The availability of these wells is a result of a settlement reached between Lockheed Martin and the City of Redlands.

Lockheed Martin provided 50% of the funding for a demonstration test of an emerging perchlorate and volatile organic compounds treatment technology the City of Redlands will pilot test on one of its wells at their Texas Street facility. The treated water will not be used for drinking water during the test. The test will be performed by Pennsylvania State University during 2004.

Lockheed Martin continued working with the City of Redlands to develop plans to mitigate impacts of perchlorate to other wells in their system.

Loma Linda University

Lockheed Martin and Loma Linda University executed an agreement for the installation of temporary ion exchange treatment at their Anderson number 2 and 3 wells in December 2003. Completion of the treatment system is scheduled during April of 2004.

City of Riverside

In December 2003, Lockheed Martin and the City of Riverside executed a written amendment to the 2002 "Interim Perchlorate Agreement" for additional, temporary ion exchange perchlorate treatment. Treatment of four additional wells is planned as described in the "**Perchlorate Treatment Update**" section, above.

Problems Encountered

No problems were encountered during the fourth quarter.

The next quarterly update will be submitted on or about April 15, 2004. If you have any questions, please contact Bob Simpson at (818) 847-0584 or Tom Blackman at (818)847-9901.

Sincerely,

for Thomas D. Blackman, R.G., C.H.G.
Technical Project Manager

C: DOHS, San Bernardino
Wesley Danskin, US Geological Survey
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